

CHAPTER 2

HEALTH, SAFETY, AND SECURITY

2-1. General. The health, safety, and security of the general public at recreational areas must be designed into facilities from the beginning of the planning stage and continued throughout the design, construction, and operation stage. Engineer manuals and regulations in the 385 series establish the safety program requirement for all Corps of Engineers activities and pertinent provisions of these publications will be applied. All facilities and equipment will comply with applicable Occupational Safety and Health Administration (OSHA) standards, National Fire Protection Association standards, and Consumer Product Safety Commission standards and guides. Corps standards established in this manual will also apply to facility design in outgranted areas.

2-2. Protection and Control. Access to recreation areas should be controlled with natural barriers such as berms, ditches, gates, barricades, and/or fencing. This protects the natural resources and the general public by keeping them within designated areas and away from potentially hazardous conditions.

2-3. Gates/Barricades.

a. Control gates shall be located at the main park entrance and at entrances to camping loops, picnic areas, and other recreation facilities that must be temporarily closed for maintenance, quiet hours, seasonal closures or overuse rejuvenation.

b. Barricades will be installed where a road has been closed and vacated due to inundation. Warning signs shall be placed at sufficient distances from the barricade to allow gentle vehicle stops.

c. Where the occasional inundation of a road occurs, a temporary barricade, in accordance with Manual on Uniform Traffic Control Devices for Streets and Highways, will be installed. These barricades shall be installed when lake forecast indicates a road will be impassable due to flooding. The barricades shall be removed as soon as the road is usable.

d. Rocks, earth berms, shrubs, trees, ditching, etc., may be used as barricades where considered appropriate for traffic control.

2-4. Fencing. Total or partial fencing of park boundaries may be required to prevent park users from trespassing onto adjacent private property, to restrict vehicular access to designated areas, and to adequately delineate property lines to prevent encroachment by adjacent land owners. Fencing may also be required to protect the public from hazardous conditions such as steep bluffs, outlet works, and to provide security for sensitive areas such as maintenance storage areas, oxidation ponds, water and sewage treatment

facilities) electrical switch yards, historical and archaeological sites (reference FM 19-30, AR 190-51, ANSI-C2, AR 190-13). Fencing materials shall be functionally and aesthetically appropriate for intended use: barbed wire for control of cattle, split rail, chain link, or guard post; highly visible cable next to subdivisions; six-foot chain link with three strands of barbed wire around sensitive areas and hazardous conditions such as maintenance compounds, radio building, switchyards; and woven wire with one or two strands of barbed wire around service facilities such as water and sewer treatment facilities. Pedestrian gates, stiles or openings will be placed in the fence at reasonable intervals to provide public access to unrestricted public lands. Policy and guidance on fencing of project boundaries are provided in ER 1130-2-400.

2-5. Guardrails. The use of guardrails should be limited to sharp curves, high roadway embankments, and fills around structures that are located close to roadways and for barricading straight-in access roads that end in the lake. Aesthetically compatible material should be used within parks.

2-6. Buoys. Buoys or buoy lines shall be provided to alert boaters to restricted areas, swimming areas, danger zones, hazardous areas, slow speed areas, boat lanes, etc., and shall conform to the current Uniform State Waterway Marking System. Where no boat traffic is to be allowed (such as outlet works, spillways, water intakes) buoys shall be interconnected with steel cable, booms, or other suitable devices so as to prevent unauthorized entry. Buoys and suitable warning signs shall be placed and maintained upstream and downstream of an outlet work. Buoys shall be located upstream from a maximum discharge through the outlet works or draft tubes. Floating warning signs, attached to the buoy lines, shall be of sufficient size to adequately warn boaters before approaching the hazardous area. Downstream buoys and suitable warning devices shall be placed to prevent fishermen from entering strong currents released during high discharges.

2-7. Signs. Signs shall be provided only where needed to regulate traffic, warn of hazardous conditions, establish restrictions (and restricted areas) and to provide information. Examples of sign placement are bluffs where diving is prohibited, slippery surfaces on boat ramps, downstream of dams and tailraces, restricted areas for authorized personnel only, prohibited fishing areas or boating areas. Detailed guidance on all traffic and warning signs and their placement shall comply with the current Manual on Uniform Traffic Control Devices for Streets and Highways and chapter 4 of EP 310-1-6. Informational bulletin boards will be provided in public use areas containing project maps, emergency numbers, Title 36 rules and regulations, safety tips, and general information.

2-8. Telephones. Where feasible, public pay phones will be provided in public use areas. Phone service should also be provided to entrance stations for security.

2-9. Courtesy Boat Docks. Courtesy boat docks, minimally sized to accommodate safe use and suitable for handicapped access, should be provided at all

boat ramps when economically feasible to install and maintain (see para 1-9c). Floating courtesy docks are preferred on pools that fluctuate. Fixed docks may be used on stationary pools. Docks shall be located as close to the ramp as possible without creating boat traffic congestion to provide short-term convenience. Access to the dock shall be directly adjacent to the ramp.

2-10. Lighting.

a. Safety. All boat ramps, major road intersections, and major facilities (such as restrooms, group shelters entrance stations) will have adequate lights, when available at reasonable cost. Care should be taken not to over light certain areas and detract from the atmosphere of the recreational experience.

b. Security. All maintenance areas, outlets works, and other major service facilities will have sufficient lighting to protect against vandalism and theft.

2-11. Access Roads to Boat Launching Ramps. Access roads to launching ramps shall be designed to require a deliberate turn from the approach onto the ramp. Traffic control devices, such as barricades, traffic islands, or berms, may be used to ensure access roads are not in direct alignment with the ramp. As a general rule, provide 25 car and trailer parking spaces per lane, except where demand or site conditions require deviations.

2-12. Power and Communication Lines. Overhead power and communication lines will not be permitted across boat launching access roads, parking lots, or areas where sailboats are rigged. Overhead power and communication lines in other areas shall have clearances that comply with ER 1110-2-4401.

2-13. Park Entrance Facilities.

a. A manned park entrance facility is normally provided at major use areas for visitor information and assistance, surveillance, security, and fee collection. Gates and other vehicular controls should be provided in order to control quiet hours traffic. Emergency telephone numbers should be posted near public telephones in a well lighted area.

b. Physical security of the entrance stations should be considered in design. Since these structures serve as a receiving and temporary storage point for user fee funds, a secure vault or safe should be considered in the design of these facilities.

2-14. Steps, Walks, Ramps, and Handrails. Access to buildings and other recreational facilities should be via safe, well lighted steps and walks. Handrails and ramps should be provided as required in EM 385-1-1.

2-15. Industrial Hygiene/Health Hazards. Recreation areas should not present health hazards to the public. Information on any hazardous material should be provided to the Resource Manager identifying necessary controls and precautions to be taken during operation and maintenance.